

Weekly Report

2017.07.03-2017.07.09

1. This Week

Wavelines

1.Revise the waveline system, including:

- Remove some parts of the original system.
- Temporarily revise the system interface to enlarge the topology view and hide the system panel.

2.Read several papers about orthogonal network layout and decide to give the first try to HOLA to create a human-like orthogonal layout. I have already contact the author and ask for the source code of the algorithm. Liwen is trying to run the source code and test the given small samples this week. The only problem is that HOLA is developed to read/write GML files only, so it maybe complicated to use HOLA source code to process the original data and then parse the GML file into javascript(It can be done, but works complicated.). So next week I'll discuss with Liwen about result of the running samples and decide whether to re-write the HOLA code to directly process with the original data or to use its source code.

3.Read papers about different clustering methods but find all of these methods are not ideal in clustering power grid devices. We start trying to cluster use k-means and at the same time, keep looking for more appropriate clustering methods. (The k-means clustering task is assigned to Fan Tianxing and he will provide the results next week.)

4.Discuss with Zhang Wei about the conditional overview design in the topology view.

5.Task assignments of our team. Discussions will be held every week:

Me: Decide the design and methods of the system. Write the paper.

Lin Liwen: Front-end development.

Fan Tianxing: Back-end development.

Chen Zexian: Front-end development.

Paper Reading

- 1.HOLA: Human-like Orthogonal Network Layout
- 2.TopoLayout: Multilevel graph layout by topological features.
- 3.yFiles — Visualization and Automatic Layout of Graphs
- 4.A comparison of user-generated and automatic graph layouts
- 5Automatic Metro Map Layout Using Multicriteria Optimization
- 6.Drawing and Labeling High-Quality Metro Maps by Mixed-Integer Programming
- 7.Stochastic blockmodels and community structure in networks.

2. TODO

- 1.Revise the waveline paper and system